Abbey Warke

Endangered Species: Leatherback Sea Turtle

The purpose of this project is to highlight the geographic locations of leatherback sea turtle habitat, and also the areas where habitat is critical to prevent extinction of the species. The goal is to create an awareness for species conservation.

Abstract

With a constant increase in marine pollution and commercial fishing, Leatherback sea turtles are on the endangered species list. To preserve the sea turtle population and prevent them from extinction, it is imperative that we understand more about them – specifically where to find them and their nesting sites. This is important to create awareness for their geographic location so that we can plan a solution to repopulate them. More specifically this project will highlight where Leatherback sea turtles are usually found, nesting sites, and also habitats that are in critical condition. Another thing this project will highlight is migration paths of the turtles and their proximity to major commercial fishing areas. The goal of this project is to create a better geographic awareness for the Leatherback sea turtle in the hopes that we can soon get it off the endangered species list.

Technology that will be used for this project:

- QGIS Software
- Leaftlet
- Highcharts/maps
- GeoJSON

Data Sources

1. NOAA Fisheries – GIS Data for Critical Habitat
   https://sero.nmfs.noaa.gov/maps_gis_data/protected_resources/critical_habitat/index.html
   This data comes in XML, KMZ, and shapefile data and I will be using the shapefile data to put into QGIS that I will then export as a leaflet plugin and embed it into my code.

2. University of Maryland – Center for Environmental Science

https://www.umces.edu/cbl/release/2012/feb/29/landmark-study-leatherback-turtle-migration-identifies-pacific-danger-zones-crit
This data is simply from a picture map on their website. I was just going to use what they showed on the map and then create a simpler version of it using GeoJSON or QGIS to highlight major migration paths with vector line geometry.

3. WWF – Bycatch statistics
https://www.fishforward.eu/en/project/by-catch/
I am going to use the stats on their webpage in order to create a highchart/map and then add it to my code.

Challenges

Some challenges I see is having adequate data for what I am trying to do. I might be using too many different tools which will make it more difficult to script and maybe also make it less clean. I am not good at scripting the GeoJSON at all and that will be a challenge for me as well as scripting more than one leaflet map on the page. This being said those things would be the main points I would like some assistance or guidance with. I think my second source of data will be hard to convert since I am going off of a picture, but it was difficult to find other sources of this.